

California Science Content Standards

The following are descriptions of the California Science Content Standards that are met through the Astro-Venture: Atmospheric Science lessons. They are delineated as follows:

CSCS 1 (3) 1g

CSCS	California Science Content Standard
1	Standard Area
(3)	Grade
1g	Standard

Third Grade

- CSCS 1(3) 1g** Students know that when two or more substances are combined, a new substance may be formed with properties that are different from those of the original materials.
- CSCS 1(3) 1h** Students know all matter is made of small particles called atoms, too small to see with the naked eye.

Fifth Grade

- CSCS 1(5) 1a** Students know that during chemical reactions the atoms in the reactants rearrange to form products with different properties.
- CSCS 1(5) 1b** Students know all matter is made of atoms, which may combine to form molecules.
- CSCS 2(5) 2g** Students know plant and animal cells break down sugar to obtain energy, a process resulting in carbon dioxide and water (respiration).
- CSCS 4(5) 6h** Students will draw conclusions from scientific evidence and indicate whether further information is needed to support a specific conclusion.

Sixth Grade

- CSCS 1(6) 3d** Students know that heat energy is also transferred between objects by radiation (radiation can travel through space).
- CSCS 2(6) 7a** Students will develop hypothesis.
- CSCS 2(6) 7b** Students will select and use appropriate tools and technology (including calculators, computers, balances, spring scales, microscopes, and binoculars) to perform tests, collect data, and display data.
- CSCS 2(6) 7d** Students will communicate the steps and results from an investigation in written reports and oral presentations.

CSCS 2(6) 7e Students will recognize whether evidence is consistent with a proposed explanation.

Seventh Grade

CSCS 2(7) 7a Students will select and use appropriate tools and technology (including calculators, computers, balances, spring scales, microscopes, and binoculars) to perform tests, collect data, and display data.

CSCS 2(7) 7c Students will communicate the logical connection among hypotheses, science concepts, tests conducted, data collected, and conclusions drawn from the scientific evidence.

CSCS 2(7) 7e Students will communicate the steps and results from an investigation in written reports and oral presentations.

Nine - Twelve

CSCS 4(9-12) 4c Students know the different atmospheric gases that absorb the Earth's thermal radiation and the mechanism and significance of the greenhouse effect.

CSCS 4(9-12) 8a Students know the thermal structure and chemical composition of the atmosphere.

CSCS 4(9-12) 8c Students know the location of the ozone layer in the upper atmosphere, its role in absorbing ultraviolet radiation, and the way in which this layer varies both naturally and in response to human activities.

Astro-Venture: Atmospheric Science meets and addresses the following California & National standards.

Lesson Number/Title	California Science Standards	California Math Standards	National Standards
1: Atmospheric Science Training Module	Meets: <ul style="list-style-type: none"> CSCS 4(5) 6h CSCS 2(6) 7a,b,d,e CSCS 2(7) 7a,c,e Partially Meets: Addresses:	Meets: Partially Meets: Addresses:	Meets: <ul style="list-style-type: none"> NSES: A (5-8) #1 ISTE: 3,5 Partially Meets: <ul style="list-style-type: none"> NSES: D (5-8) #1.8 Addresses: <ul style="list-style-type: none"> 2061: 4B(6-8) #2
2: Building Blocks of Matter	Meets: <ul style="list-style-type: none"> CSCS 1(3) 1h CSCS 1(5) 1b Partially Meets: <ul style="list-style-type: none"> CSCS 1(5) 1e,d Addresses: <ul style="list-style-type: none"> CSCS 1(5) 1g CSCS 1(8) 3d,e CSCS 2(9-12) 2d 	Meets: Partially Meets: Addresses:	Meets: <ul style="list-style-type: none"> 2061: 4D(6-8) #1 Partially Meets: <ul style="list-style-type: none"> NSES: B (5-8) #1.3 NSES: B (9-12) #1.1 NSES: B (9-12) #2.2 Addresses:
3: Greenhouse Gases: Carbon Dioxide and Water Vapor	Meets: <ul style="list-style-type: none"> CSCS 1(6) 3d CSCS 4(9-12) 4c Partially Meets: Addresses: <ul style="list-style-type: none"> CSCS 4(3) 5c,d,e CSCS 4(4) 6b,e,f CSCS 4(5) 6d,e,f,g,h,i CSCS 2(6) 7a,b,c,d CSCS 2(7) 7a,c,e CSCS 2(8) 9a,b,c,e CSCS 4(9-12) 8a 	Meets: Partially Meets: Addresses: <ul style="list-style-type: none"> CMCS C (2) 1.3 CMCS C (3) 1.0 CMCS D (4) 1.0 	Meets: <ul style="list-style-type: none"> 2061: 4E (6-8) #3 Partially Meets: Addresses: <ul style="list-style-type: none"> NSES: B (5-8) #3.1 NSES: B (5-8) #3.2 NCTM: 5,9
4: The Flow of Matter: Chemical and Conservation of Matter	Meets: <ul style="list-style-type: none"> CSCS 1(3) 1g CSCS 1(5) 1a,b Partially Meets: Addresses: <ul style="list-style-type: none"> CSCS 1(8) 5a,b,c,d 	Meets: Partially Meets: Addresses: <ul style="list-style-type: none"> CMCS C (3) 1.1 	Meets: Partially Meets: <ul style="list-style-type: none"> 2061: 4D(6-8) #7 2061: 4D(3-5) #4 NSES: B (5-8) #1.2 Addresses: <ul style="list-style-type: none"> NCTM: 4,5,9

5: Oxygen, Oxidation, and Combustion	Meets: <ul style="list-style-type: none"> CSCS 2(5) 2g Partially Meets: <ul style="list-style-type: none"> CSCS 1(8) 5a,b,c Addresses: <ul style="list-style-type: none"> CSCS 4(3) 5d,e CSCS 4(4) 6e,f CSCS 2(5) 2f CSCS 4(5) 6f,g,h CSCS 2(6) 7a,b,c CSCS 2(7) 7a,c CSCS 2(8) 9e 	Meets: Partially Meets: Addresses: <ul style="list-style-type: none"> CMCS D (4) 1.0 	Meets: Partially Meets: <ul style="list-style-type: none"> 2061: 4D(6-8) #6 NSES: B (5-8) #3.5 Addresses: <ul style="list-style-type: none"> 2061: 5C (6-8) #3 NSES: C (5-8) #1.3 NCTM: 4,5,9
6: Stratospheric Ozone and Ultraviolet Light	Meets: <ul style="list-style-type: none"> CSCS 4(9-12) 8c Partially Meets: Addresses: <ul style="list-style-type: none"> CSCS 4(5) 6b,c,h,i CSCS 2(6) 7a,b,d CSCS 2(7) 7a,c,e CSCS 1(8) 5a CSCS 2(8) 9a 	Meets: Partially Meets: Addresses:	Meets: Partially Meets: Addresses: <ul style="list-style-type: none"> NSES: B (5-8) #3.6 NSES: B (5-8) #1.1 NSES: F (5-8) #1.7 NSES: A (5-8) #1 2061: 6E(6-8) #5
7: Nitrogen: The Effects from Properties versus Amount	Meets: Partially Meets: Addresses: <ul style="list-style-type: none"> CSCS 1(5) 1a CSCS 3(5) 4e CSCS 1(8) 5a 	Meets: Partially Meets: Addresses:	Meets: Partially Meets: Addresses: <ul style="list-style-type: none"> 2061: 4D (6-8) #2 NSES: B (5-8) #1.2 ISTE: 3,5
8: Atmospheric Science Conclusion: Summarizing Learning	Meets: <ul style="list-style-type: none"> CSCS 1(3) 1g,h CSCS 4(9-12) 4c CSCS 4(9-12) 8a Partially Meets: <ul style="list-style-type: none"> CSCS 4(9-12) 8b,c Addresses: <ul style="list-style-type: none"> CSCS 1(5) 1a CSCS 1(8) 5a 	Meets: Partially Meets: Addresses:	Meets: Partially Meets: Addresses: <ul style="list-style-type: none"> 2061: 4B (6-8) #2 2061: 11A (3-5) #1 2061: 11A (3-5) #2 2061: 11A (6-8) #2 2061: 11A (6-8) #3 NSES: D (5-8) #1.8